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COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE
Scientific and Technical Subcommittee
Twenty-eighth session

DRAFT REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS TWENTY-EIGHTH SESSION

Addendum

III. MATTERS RELATING TO REMOTE SENSING OF THE EARTH BY SATELLITES, INCLUDING, INTER ALIA, APPLICATIONS FOR DEVELOPING COUNTRIES

1. In accordance with General Assembly resolution 45/72, the Subcommittee continued its consideration of this item.

2. In the course of the debate, delegations reviewed the national and cooperative programmes in remote sensing. Examples were given of national programmes in developing and developed countries and of international programmes based on bilateral, regional and international cooperation, including programmes of technical cooperation between developing countries. Countries with advanced capabilities in the field, including some developing countries, described programmes to provide assistance to other developing countries.

3. The Subcommittee took note of the continuing programmes of China, France, India, Japan, the USSR and the United States for remote-sensing satellites as well as the planned remote-sensing satellite systems of Brazil, Canada and ESA. It also took note of the remote-sensing activities of FAO for mapping, assessment and management of renewable natural resources for the benefit of developing countries. The Subcommittee heard special presentations on remote sensing by experts from Canada, the Netherlands and the United States, as mentioned in paragraph ... of the present report.

4. The Subcommittee reiterated its view that remote-sensing activities should take into account the need to provide appropriate and non-discriminatory assistance to meet the needs of the developing countries.

5. The Subcommittee emphasized the importance of making remote-sensing data and analysed information available to all countries at reasonable cost and in a timely

manner. The Subcommittee also recognized the need for continuing free access to data from operational meteorological satellites.

6. The Subcommittee felt that international cooperation in the use of remote-sensing satellites should be encouraged, both through coordination of the operations of ground stations and through regular meetings between satellite operators and users. It noted the importance of compatibility and complementarity of existing and future remote-sensing systems. The Subcommittee also noted the importance of sharing experiences and technologies between developing countries, of cooperation through international and regional remote-sensing centres and of joint work on collaborative projects.

7. Recalling General Assembly resolution 41/65 of 3 December 1986, by which the Assembly had adopted the Principles Relating to Remote Sensing of the Earth from Outer Space, the Subcommittee recommended that at its twenty-ninth session it continue its discussion on remote-sensing activities conducted in accordance with those principles, during its consideration of the agenda item concerning remote sensing.

8. The Subcommittee recommended that the item be retained on its agenda as a priority item for the next session.

IV. USE OF NUCLEAR POWER SOURCES IN OUTER SPACE

9. In accordance with General Assembly resolution 45/72, the Subcommittee continued its consideration of this item.

10. The Subcommittee noted with satisfaction that, on the basis of the work of the Subcommittee and its Working Group on the Use of Nuclear Power Sources in Outer Space at its last session, the Legal Subcommittee's Working Group on the question had been able to agree on a text for draft principle 3 relating to guidelines and criteria for safe use (A/AC.105/457, annex I, para. 12).

11. The Subcommittee took note of a working paper submitted by the United States (A/AC.105/C.1/L.176) with a view to contributing further to the substantial progress made in the Subcommittee on the subject.

12. In this connection, some delegations expressed the view that, in the consideration of the draft principles, discussion of principle 3 should not be reopened at the current stage, and that work should continue on the remaining principles on which agreement had not yet been reached.

13. The Subcommittee also took note of the work being done in IAEA and other international organizations concerning international principles of radiation protection. The Subcommittee noted the importance of harmonizing principles relating to the use of nuclear power sources in outer space with other international principles and standards, including those of IAEA and other international organizations. The Subcommittee agreed that the scientific and technical guidelines and criteria for the safe use of nuclear power sources in outer space should, in the future, be reviewed and revised as necessary, as

provided in principle 12 of the draft principles contained in document A/AC.105/C.2/L.154/Rev.7.

14. The Subcommittee agreed that Member States should be invited to report to the Secretary-General on a regular basis with regard to national and international research concerning the safety of nuclear-powered satellites.

15. The Subcommittee agreed that further studies should be conducted on the problem of the collision of nuclear power sources with space debris and that the Subcommittee should be kept informed of the results of such studies. The view was expressed that an international expert group should be established to consider the problem.

16. The Subcommittee recommended that the item be retained on its agenda for the next session. The Subcommittee further recommended that the question of reconvening the Working Group on the Use of Nuclear Power Sources in Outer Space be considered by the Committee at its next session in the light of the work carried out by the Legal Subcommittee on the subject at its thirtieth session.

V. QUESTIONS RELATING TO SPACE TRANSPORTATION SYSTEMS AND THEIR IMPLICATIONS FOR FUTURE ACTIVITIES IN SPACE

17. In accordance with General Assembly resolution 45/72, the Subcommittee continued its consideration of this item. The Subcommittee heard a special presentation by a United States astronaut on the Space Shuttle programme, as mentioned in paragraph 16 of the present report.

18. The Subcommittee noted that 1991 was the thirtieth anniversary of the first human space flight.

19. In the course of the discussion, delegations reviewed the national and cooperative programmes in space transportation systems. In particular, the Subcommittee noted that:

(a) China had launched a communication satellite, the FY-1 meteorological satellite, and a recoverable satellite for remote sensing, life science and material science, as well as providing launches for the Asiasat commercial communication satellite and Pakistan's Badr experimental satellite. It had also continued developmental work on new models of the Long March series of launchers;

(b) Japan had launched a BS broadcasting satellite and the second Marine Observation Satellite (MOS) into Earth orbit, as well as launching the Muses spacecraft into a lunar trajectory to test precision orbit-control technology, data transmission systems and lunar swing-by procedures for use in future planetary missions. Japan had also continued work on new launchers;

(c) In 1990, the USSR had continued its very active programme of space flights. The year had seen the end of one long-duration flight aboard the Mir space station by two cosmonauts, the beginning of a new mission by two other cosmonauts, a short visit by a Japanese cosmonaut and the expansion of the station

by the addition of the Kristall module for microgravity research and other space research. Throughout the year, astrophysical, geophysical, biological and medical experiments had been conducted aboard the station. Training for future missions had begun for cosmonauts from Austria, Germany and the United Kingdom. The USSR had also launched the Gamma astrophysical observatory and satellites in the Cosmos, Resurs-F, Raduga, Raduga-1, Gorizont, Molniya-1, Molniya-3, Meteor-2, Okean, Nadezhda and Foton satellites for space research, remote sensing, communications, meteorology, oceanography, search and rescue, and microgravity research. These satellites had been launched by Soyuz, Proton, Cosmos, Tsyklon, Molniya and Zenit launchers;

(d) The United States had continued work on the development of the International Space Station Freedom, in cooperation with Canada, Japan and ESA. Six Space Shuttle flights had taken place in 1990, launching the Hubble Space Telescope and the ESA Ulysses solar polar observer, carrying the Astro astronomical observatory, recovering the Long Duration Exposure Facility and conducting microgravity research. Other United States launch vehicles had launched the Combined Release and Radiation Effects Satellite for scientific research and two small Multiple Access Communication Satellites, as well as the Rosat X-ray observatory in cooperation with Germany, an Insat communication and meteorological satellite for India, a Marcopolo broadcasting satellite for the United Kingdom and communication satellites for Indonesia, the United Kingdom, Japan, INMARSAT and INTELSAT. Developmental work had continued on increasing the duration of Shuttle flights and developing advanced launchers, including the National Aerospace Plane;

(e) ESA had continued developmental work on the heavy launcher Ariane V, the space plane Hermes and the Columbus system, including elements provided for the international space station programme. The Ariane launcher developed by ESA had launched the Spot-2 remote-sensing satellite and the TDF broadcasting satellite for France and communication satellites for Germany, the United Kingdom, the United States, EUTELSAT and INTELSAT.

20. The Subcommittee noted the developments in various programmes related to space transportation and stressed the importance of international cooperation for providing all countries with access to the benefits of space science and technology.

21. The Subcommittee recommended that consideration of the item be continued at its next session.

VI. EXAMINATION OF THE PHYSICAL NATURE AND TECHNICAL ATTRIBUTES OF THE GEOSTATIONARY ORBIT; EXAMINATION OF ITS UTILIZATION AND APPLICATIONS, INCLUDING, INTER ALIA, IN THE FIELD OF SPACE COMMUNICATIONS, AS WELL AS OTHER QUESTIONS RELATING TO SPACE COMMUNICATIONS DEVELOPMENTS, TAKING PARTICULAR ACCOUNT OF THE NEEDS AND INTERESTS OF DEVELOPING COUNTRIES

22. In accordance with General Assembly resolution 45/72, the Subcommittee continued consideration of this item.

23. In the course of the consideration of the item, some delegations expressed the view that the Subcommittee should contribute to the work of the Legal Subcommittee in its consideration of the question of the geostationary orbit.

24. Some delegations expressed the view that the geostationary orbit was a limited natural resource subject to saturation, that the existing technological and coordination procedures were not adequate, and that a special regime was required to ensure equitable access by all States, in particular by equatorial States and other developing countries. They felt that the roles of ITU and the Committee on the Peaceful Uses of Outer Space with respect to the geostationary orbit were complementary.

25. Other delegations expressed the view that questions relating to the geostationary orbit were being addressed effectively in ITU. They reviewed developments in national and international space communications programmes, which would contribute to ensuring that all countries would have access to satellite communications.

26. The Subcommittee took note of the various current and planned satellite communications programmes of Member States and of international organizations, including INMARSAT, INTELSAT and INTERSPUTNIK.

27. The Subcommittee recommended that consideration of the item be continued at its next session.

VII. MATTERS RELATING TO LIFE SCIENCES, INCLUDING SPACE MEDICINE

[To be included in A/AC.105/C.1/L.175/Add.2]

VIII. PROGRESS IN NATIONAL AND INTERNATIONAL SPACE ACTIVITIES RELATED TO THE EARTH ENVIRONMENT, IN PARTICULAR PROGRESS IN THE GEOSPHERE-BIOSPHERE (GLOBAL CHANGE) PROGRAMME

28. In accordance with General Assembly resolution 45/72, the Subcommittee continued its consideration of this item.

29. The Subcommittee noted with satisfaction that, at its invitation, COSPAR and IAF had arranged a special presentation to the Subcommittee on the International Geosphere-Biosphere Programme, as mentioned in paragraph 15 of the present report. The Subcommittee expressed its appreciation to COSPAR and IAF for the very informative presentation.

30. The Subcommittee noted the progress being made through international cooperation in the International Geosphere-Biosphere Programme. It noted that such a joint international effort was of fundamental importance for examining the future habitability of the planet and for managing the common natural resources of the Earth. The Subcommittee took particular note of the need to involve as many nations as possible in the scientific activities of the programme, both in

developed and in developing countries. It agreed that it should remain informed of progress in the programme so as to be able to facilitate international cooperation in that area.

31. The Subcommittee noted the need for further research to reduce the uncertainties in data and models relating to temperature change, sea-level change, global vegetation cover, deforestation and other factors affecting the Earth environment. The Subcommittee recognized the important contribution that space activities could make to the study of the Earth environment.

32. The Subcommittee took note of the activities being planned as part of the Mission to Planet Earth programme. It noted, in particular, plans for the Almaz environmental monitoring system, the Priroda ecological module and the Earth Observing System for making comprehensive observations of the global environment. The Subcommittee also took note of the proposal for the Protection of the Environment for Assuring a Cleaner Earth (PEACE) satellite system, for a cooperative programme for tropical cyclone monitoring and for a satellite seismic monitoring system. The Subcommittee recommended that States consider participating in such cooperative activities.

33. The Subcommittee recommended that consideration of the item be continued at its next session.